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TELCORDIA TECHNOLOGIES, INC., Plaintiff, v. LUCENT TECHNOLOGIES, INC., Defendant. TELCORDIA TECHNOLOGIES, INC., Plaintiff, v. CISCO SYSTEMS, INC., Defendant.

Civil Action No. 04-875 GMS, Civil Action No. 04-876 GMS

UNITED STATES DISTRICT COURT FOR THE DISTRICT OF DELAWARE

2007 U.S. Dist. LEXIS 31960

**May 1, 2007, Decided
May 1, 2007, Filed**

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JUDGES: Gregory M. Sleet, UNITED STATES DISTRICT JUDGE.

OPINION BY: Gregory M. Sleet

OPINION:

MEMORANDUM

I. INTRODUCTION

The plaintiff, Telcordia Technologies, Inc. ("Telcordia") filed the above-captioned actions against Alcatel USA, Inc. ("Alcatel"), n1 Lucent Technologies, Inc. ("Lucent"), and Cisco Systems, Inc. ("Cisco")

(collectively, the "defendants") on July 16, 2004. In its complaint, Telcordia alleges that the defendants are infringing *U.S. Patent Nos. 4,893,306* (the "'306 patent'"), Re. 36,633 (the "'633 patent'"), and 4,835,763 (the "'763 patent'"). [*2] Presently before the court are the defendants' Motion for Summary Judgment of Non-Infringement of the '306 Patent (D.I. 251) n2, the defendants' Motion for Summary Judgment of Non-Infringement of the '763 Patent (D.I. 254), the plaintiff's Motion for Partial Summary Judgment that the '306 Patent is Not Invalid as Anticipated or for Lack of Enablement (D.I. 258), and the Defendants' Motion for Summary Judgment of Invalidity of the '306 Patent (D.I. 259). For the reasons that follow, the court will grant the defendants' motion for summary judgment of non-infringement of the '306 patent; the court will deny the defendants' motion for summary judgment of non-infringement of the '763 patent; the court will grant in part and deny in part Telcordia's motion for summary judgment that the '306 patent is not invalid as anticipated, and grant Telcordia's motion for summary judgment that the '306 patent is not invalid for lack of enablement; and the court will deny the defendants' motion for summary judgment of invalidity of the '306 patent for failure to disclose the best mode.

n1 On July 18, 2006, the court stayed Telcordia's action against Alcatel pursuant to 28 U.S.C. § 1659.

[*3]

n2 For convenience, the court will refer to the record using docket item numbers from the 04-875 action.

II. BACKGROUND n3

n3 The court discusses only the patents-in-suit in this section. The parties' briefs do not agree on the appropriate background of the technology, or contain any succinct agreed upon summary of how the accused products work. Because the court is not an advocate, it will not adopt either party's recitation of these facts. The court does note for future reference, however, that summary judgment briefs should contain a succinct discussion of the background of the technology, the patents-in-suit, and the accused products.

A. The Patents-in-Suit n4

n4 This memorandum discusses only the '306 and '763 patents, as none of the permitted summary judgment motions address the '633 patent.

[*4]

The patents-in-suit relate to telecommunications networks. In particular, the '306 patent relates to a method and apparatus for multiplexing circuit and packet traffic. The patent discloses a data transmission technique, or Dynamic Time Division Multiplexing ("DTDM"), that is compatible with the digital circuit transmission format, as well as the packet transmission format, thereby providing a flexible migration strategy between present circuit networks and future broadband packet networks. The asserted claims of the '306 patent focus on methods and an apparatus for establishing the DTDM technique, i.e. for multiplexing circuit and packet traffic. The '763 patent specifically relates to a survivable or self-healing ring network that can withstand a cut line or failed node. The invention consists of two rings carrying identical multiplexed node to node

communications in opposite directions. If a node on one ring detects a fault in an incoming line, it places an error signal on the channels following demultiplexing. If an error signal is detected on a local channel of one ring, the identical communication from the associated channel of the second ring is sent to the receiver. That is, [*5] if one channel has an error signal, the receiver selects the alternate channel. In this way, a break in one ring or a break in both rings between two adjacent nodes will not cause a failure in the system. Nor will the failure of a node destroy communications among the remaining nodes.

III. STANDARD OF REVIEW

Summary judgment is appropriate "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law." *FED. R. CIV. P. 56(c)*; see also *Boyle v. County of Allegheny Pa.*, 139 F.3d 386, 392 (3d Cir. 1998). Thus, summary judgment is appropriate only if the moving party shows there are no genuine issues of material fact that would permit a reasonable jury to find for the non-moving party. *Boyle*, 139 F.3d at 392. A fact is material if it might affect the outcome of the suit. *Id.* (citing *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247-248, 106 S. Ct. 2505, 91 L. Ed. 2d 202 (1986)). An issue is genuine if a reasonable jury could possibly [*6] find in favor of the non-moving party with regard to that issue. *Id.* In deciding the motion, the court must construe all facts and inferences in the light most favorable to the non-moving party. *Id.*; see also *Assaf v. Fields*, 178 F.3d 170, 173-74 (3d Cir. 1999). If the moving party has demonstrated an absence of material fact, the non-moving party then "must come forward with 'specific facts showing that there is a genuine issue for trial.'" *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587, 106 S. Ct. 1348, 89 L. Ed. 2d 538 (1986) (quoting *Federal Rule of Civil Procedure 56(e)*). The mere existence of some evidence in support of the non-moving party, however, will not be sufficient for denial of a motion for summary judgment; there must be enough evidence to enable a jury reasonably to find for the non-moving party on that issue. *Anderson*, 477 U.S. at 249.

When a party challenges a patent's validity, the court begins with the statutory presumption of validity. 35

U.S.C. § 282 ("A patent shall be presumed valid."). Accordingly, "[t]he burden of establishing invalidity of a patent [*7] or any claim thereof shall rest on the party asserting such invalidity." *Id.* Invalidity must be shown by clear and convincing evidence. *Robotic Vision Sys., Inc. v. View Eng'g, Inc.*, 189 F.3d 1370, 1377 (Fed. Cir. 1999). This evidentiary standard is relevant in the context of a motion for summary judgment because "the judge must view the evidence presented through the prism of the substantive evidentiary burden." *Anderson*, 477 U.S. at 254. As the Court elaborated,

[W]here the . . . 'clear and convincing' evidence requirement applies, the trial judge's summary judgment inquiry as to whether a genuine issue exists will be whether the evidence presented is such that a jury applying that evidentiary standard could reasonably find for either the plaintiff or the defendant. Thus, where the factual dispute concerns [a material issue]. . . the appropriate summary judgment question will be whether the evidence in the record could support a reasonable jury finding either that the [movant] has shown [that material issue] by clear and convincing evidence or that the [movant] has not.

Id. at 255-56. Thus, the defendants [*8] must show that there is no genuine issue as to any material fact that is necessary for a finding, by clear and convincing evidence, of invalidity. If the defendants make such a showing, Telcordia may withstand summary judgment by adducing "specific facts" sufficient to create a genuine issue of material fact as to an essential element of the defendants' defense of invalidity. *FED. R. CIV. P. 56(e)*; see also *Int'l Ass'n of Heat & Frost Insulators & Asbestos Workers Local Union 42 v. Absolute Envtl. Serv., Inc., et al.*, 814 F. Supp. 392, 401-02 (D. Del. 1993) (explaining summary judgment standard and burdens).

IV. DISCUSSION

A. Infringement

A patent is infringed when a person "without authority makes, uses or sells any patented invention, within the United States . . . during the term of the patent." 35 U.S.C. § 271(a). A patent infringement

analysis entails two steps: "(1) claim construction to determine the scope of the claims, followed by (2) determination of whether the properly construed claim encompasses the accused device." *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998) [*9] (citations omitted). The first step, claim construction, is a matter of law for the court to decide. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996). The second step, the determination of infringement, is a question of fact. *Bai*, 160 F.3d at 1353. "Literal infringement of a claim occurs when every limitation recited in a claim appears in the accused device, i.e., when 'the properly construed claim reads on the accused device exactly.'" *KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1358 (Fed. Cir. 2000) (citation omitted). The patent owner has the burden of proving infringement and must meet its burden by a preponderance of the evidence. *SmithKline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988) (citations omitted).

1. The '306 Patent

Telcordia accuses the defendants of infringing claims 1, 3, and 4 of the '306 patent, which disclose:

1. A method for simultaneously transmitting data from sources having different bit rates in a telecommunication network comprising the steps of:

generating a bit stream comprising a sequence of frames, each of said frames [*10] including a transmission overhead field containing frame timing information and an empty payload field, and

filling the empty payload fields in said frames with data in packetized format from a plurality of sources which have access to the bit stream including circuit or packet sources, such that data in packetized format from any of said sources is written into any available empty payload field of any of said frames for transmitting data from each of said sources at its own desired bit rate via said bit stream and for transmitting data from said plurality of sources simultaneously via said bit stream.

3. A method for generating a bit stream capable of transporting data originating from both circuit transmission packet sources comprising

generating a bit stream comprising a sequence of frames, each of said frames including a transmission overhead field containing frame timing information and an empty payload field,

packetizing data from a plurality of sources having different bit rates and which have access to said bit stream including circuit transmission sources or customer premises equipment to produce data packets, and

inserting said packets from said sources [*11] into the empty payload fields of said frames such that a packet from any of said sources is inserted into any available empty payload field of any of said frames for transmitting data from each of said sources at its own desired bit rate via said bit stream and for transmitting data from said plurality of sources simultaneously using said bit stream.

4. An apparatus for assembling a dynamic time division multiplexing bit stream comprising,

generating means for generating a train of frames wherein each frame includes a transmission overhead field containing timing information and an empty payload field,

processing means for processing data from a plurality of sources into packet format, and

inserting means for receiving said train of frames and for inserting each of said packets comprised of data from one of said plurality of sources into any empty payload field of any of said frames available to said inserting means to form

said bit stream so that data from each of said sources can be transmitted at its own desired bit rate via said bit stream and so that data from said plurality of sources can be transmitted simultaneously via said bit stream.

(*'306 patent*, [*12] 17:44-61; *id.* at 18:1-37.) In the present case, the court issued its Order (D.I. 189) construing the disputed claim terms of the *'306 patent* on June 22, 2006. On August 11, 2006, Telcordia filed its letter request for summary judgment with the court, seeking to have judgment entered against itself regarding claims 1, 3, and 4 of the *'306 patent* -- specifically that those claims are not infringed by any of the accused products of Cisco or Lucent because they do not use "empty payload fields" as defined by the court. (D.I. 228, at 1.) Further, Telcordia sought to have judgment entered against itself regarding claims 1 and 3 of the *'306 patent* -- specifically that those claims are not infringed by any of the accused products of Cisco or Lucent because the accused products do not operate such that "two or more sources [] each insert data into the generated bit stream *via its own tributary*," as defined by the court. (*Id.*) The court did not accede to Telcordia's request, but did agree to let the defendants file a motion for summary judgment of non-infringement with respect to all elements of the asserted claims of the *'306 patent*.

In addition to requesting summary judgment on the [*13] "empty payload fields" and "two or more sources [] each insert data into the generated bit stream *via its own tributary*" limitations, the defendants have requested summary judgment on the following claim limitations: (1) the "such that" limitations of claims 1 and 3, and the "inserting means" limitation of claim 4; (2) the "inserting" and "filling" limitations of claims 1, 2, and 4; (3) the "available empty payload field" limitations of claims 1, 3, and 4; and (4) the functional limitations "generating means" and "inserting means" of claim 4.

In its claim construction Order, the court construed the "such that" limitations of claims 1 and 3, and the "inserting means" limitation of claim 4 to require that "packets are only put into frames which are empty." (D.I. 189 PP 33-34.) The defendants contend that their accused devices do not meet these limitations that require one packet per frame for two reasons: (1) the SONET frames in the accused products are designed to carry multiple packets or cells, and the packets and cells are transmitted

as part of frames that are at least partially filled; and (2) data is not "put into frames" in the accused products. In other words, the defendants [*14] argue that the cells and packets of their accused products would never be put only into frames which are empty.

With respect to the "inserting" and "filling" limitations of claims 1, 2, and 4, which were construed by the court to require "replacing the empty payload field with data from a single source," the defendants argue that the court's claim construction resolved the issue of infringement. According to the defendants, this is because there is no real dispute that their products package multiple data cells from different sources that ultimately are included in a single SONET frame. Thus, the defendants argue that their products do not and cannot replace the frame's payload "with data from a single source," as required by the court's claim construction Order.

The court's claim construction of the "available empty payload" limitation requires "an empty payload field that can be filled with a data packet from the source, among the plurality of sources, of the highest priority with a data packet ready to transmit." The defendants argue that their products do not meet this limitation under the court's claim construction, specifically because it is undisputed that the framing chips [*15] of their products insert packets without competition or priority. That is, the defendants contend that their SONET framer is blind to any priority scheme that may exist among originating data sources.

Finally, the defendants contend that their accused products do not perform the claimed function of the "generating means" and "inserting means" limitations, which were construed by the court to require "generating a train of frames wherein each frame includes a transmission overhead field containing timing information and an empty payload field," and "receiving said train of frames and inserting each of said packets comprised of data from one of the plurality of sources into any empty payload field of any of said frames available to said inserting means to form said bit stream so that data from each said sources can be transmitted at its own desired bit rate via said bit stream and so that data from said plurality of sources can be transmitted simultaneously via said bit stream." Specifically, the defendants argue that their accused products operate contrary to the requirements of the claims, because they

do not generate a train of empty frames and then replace the empty payload fields [*16] of those frames with data from a single source. Rather, the defendants contend that their products create a stream of payloads by packaging data from diverse sources, and then build the frame structure around the payload stream by injecting overhead at appropriate intervals.

Telcordia's answering brief hardly addresses the issues raised by the defendants. Instead, Telcordia spends pages of its brief attempting to reargue or, perhaps, attempting to persuade the court to revisit its claim construction rulings, Judge Farnan's claim construction rulings in the *Bell Communications Research Inc. v. Fore Systems, Inc.* case (the "*Fore Case*"), and the Federal Circuit's claim construction rulings in the *Fore Case*. n5 In so doing, Telcordia appears to have become so embroiled in playing zealous advocate that it has disregarded the standard that it must meet to defeat the defendants' contention that summary judgment is appropriate with respect to the four claim limitations that were not conceded. As previously stated, if the party moving for summary judgment has demonstrated an absence of material fact, the non-moving party then "must come forward with 'specific facts showing that [*17] there is a genuine issue for trial.'" *Matsushita*, 475 U.S. at 587. Moreover, there must be enough evidence to enable a jury reasonably to find for the non-moving party on that issue. *Anderson*, 477 U.S. at 249. Here, Telcordia agrees with many of the defendants' contentions regarding how their accused products work. For example, Telcordia agrees with the defendants that "it is undisputed . . . that multiple cells or packets are carried in each SONET frame in the accused product[s]." (D.I. 265, at 24.) Telcordia then argues that this concession says nothing about whether the accused products meet the "such that" and "inserting means" limitations. The court does not agree with Telcordia because, once the first ATM cell of the accused products is put into the SONET frame, that frame is no longer "empty," which is a requirement of the court's claim construction. n6

n5 Additionally, the court notes that Telcordia devotes much of its answering brief to an issue that is not ripe for resolution -- the court's exclusion of its expert reports. Not only is Telcordia's argument improperly included in a summary judgment brief, but including the argument violates the court's July 26, 2006 Order,

which stated that "[t]he court will not accept any further filings from the parties as to this [the expert report] issue." (D.I. 221.) Indeed, the time for Telcordia to request reconsideration has passed. Instead of requesting reconsideration of the court's ruling regarding its expert reports at a time when that issue was ripe for adjudication, however, Telcordia merely requested "a clarification," and did not raise arguments under Third Circuit law (or any law for that matter) as to why the exclusion was an extreme sanction. (See D.I. 216.) After having ordered the parties to cease arguing the issue of Telcordia's expert reports, the court is amazed to find a renewed argument in Telcordia's summary judgment briefing, as well as what Telcordia labels an "Offer of Proof" by Dr. Paul Prucnal ("Dr. Prucnal") that is actually a belated expert report. At this point, the court has wasted enough of its limited time and resources addressing rehashed arguments. For this reason, and because Telcordia has contravened the court's order to cease argument on the expert report issue, the court will disregard Dr. Prucnal's "Offer of Proof," as well as the section of Telcordia's brief regarding the exclusion of its expert reports.

[*18]

n6 Telcordia makes similar concessions regarding other limitations of the asserted claims. Specifically, Telcordia does not dispute the fact that the defendants' accused products place data from multiple sources into SONET frames (D.I. 265, at 28.), thereby raising no specific facts showing that there is a genuine issue regarding the "inserting" and "filling" limitations of the asserted claims.

The only disputes Telcordia's answering brief seems to raise hinge upon what this court's, or Judge Farnan's, or the Federal Circuit's claim construction rulings mean or, rather, at least according to Telcordia, what this court's claim construction should mean. As already discussed, however, the summary judgment phase of the litigation is not the proper time to rehash claim construction arguments that the court has previously rejected (or advance new claim construction arguments).

Given the foregoing discussion, the court concludes that Telcordia has not met its burden under the summary judgment standard and, therefore, summary judgment of non-infringement of the '306 patent is appropriate on all grounds [*19] raised by the defendants.

2. The '763 Patent

Telcordia is asserting claims 1, 2, 7, and 8 of the '763 patent against the defendants. Claim 1 is a representative claim which discloses:

In a communications network having a plurality of nodes interconnected in a ring configuration by a first ring which conveys multiplexed subrate communications around the first ring from node to node in one direction and a second ring which conveys multiplexed subrate communications around the second ring from node to node in the other direction, each node including subrate transmitters with associated multiplexers and demultiplexers with associated receivers, an improved node comprising

monitoring means, associated with the first ring and the second ring, for evaluating the integrity of the multiplexed subrate communications on the first ring and the second ring respectively, and

insertion means, associated with the demultiplexers and said monitoring means, for *inserting an error signal on designated ones of the subrate communications* in response to said monitoring means detecting a lack of integrity on the multiplexed subrate communications on the first ring or the [*20] second ring or both the first ring and the second ring.

('763 patent, 4:53-5:5.) n7 The defendants contend in their motion that their accused products do not meet the "inserting an error signal on designated ones of said [the] subrate communications" limitation. The court has construed this limitation to mean "inserting an error signal on the channels following demultiplexing." (D.I. 189 P 5.)

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n7 The court has emphasized the disputed language, which is also contained in independent claim 7 of the '763 patent.

The defendants argue that summary judgment is proper, since Telcordia cannot prove infringement of the asserted claims of the '763 patent, because the defendants' accused products do not insert error signals "following demultiplexing." According to the defendants, Telcordia has made a new argument regarding which component in the accused devices performs the allegedly infringing demultiplexing function. The defendants contend that this new argument fails as a matter of law for three [*21] reasons: (1) the new argument requires the court to find that the claimed demultiplexing is performed by something other than the component the parties agree is the claimed demultiplexer; (2) Telcordia is asking the court to rewrite its claim construction ruling because demultiplexing is incomplete until the signal reaches the claimed demultiplexer; and (3) it is undisputed that the accused products insert error signals on every channel within a defective high-level signal before the high level signal reaches the pointer processor (i.e. the component that Telcordia contends performs demultiplexing).

Not surprisingly, Telcordia disagrees with the defendants' arguments. Indeed, Telcordia contends that the defendants' accused products meet the "inserting an error signal on designated ones of said [the] substrate communications" limitation because they: (1) first insert line error signals (the AIS-L signals); (2) then demultiplex at the Pointer Processor component; (3) then insert path error signals (AIS-P signals); and (4) then demultiplex at the cross-connect component. In other words, Telcordia maintains that the defendants' accused products insert error signals (the AIS-P signals) [*22] following demultiplexing (at the pointer processor), thereby meeting the requirements of the court's claim construction. Telcordia also contends that the defendants' motion is premised on a "new construction" of the disputed claim term, "which includes gratuitous elaborations and additional limitations that were never raised during claim construction[, are too restrictive,] and . . . are not part of the [c]ourt's construction." (D.I. 264, at 4.)

After having considered the parties submissions, as well as the record, the court finds that there are genuine

issues of material fact as to the "inserting an error signal on designated ones of said [the] substrate communications" limitation, specifically whether the pointer processor in the defendants' accused products performs the recited function. More specifically, the court concludes that the dispute between the parties can be classified only as a classic battle of the experts. Indeed, the parties' experts even dispute the meaning of "demultiplexing" -- Telcordia's expert, Dr. Paul Prucnal ("Dr. Prucnal"), defines the term as "[t]he separation from a common input into several outputs" (D.I. 264 Ex. 3, at 4), while the [*23] defendants' expert, Dr. Wayne D. Grover ("Dr. Grover"), defines the term as "separating the constituent channels out of a high-speed signal and restoring each channel to its original signal format." (D.I. 256 Ex. 3 P 55.)

Additionally, Dr. Prucnal opines that the Pointer Processor block in Cisco's and Lucent's accused products demultiplexes, "because it receives the errored signal from the Receive Framer, which normally would contain many STS-1 signals multiplexed together, and separately processes each STS-1 [or individual channel], and separately stores each STS-1 into a FIFO RAM." (D.I. 264 Ex. 3, at 4; id. Ex. 4, at 4.) Then, "[w]hen a lack of integrity is detected, the pointer bytes of each SPE are set by the Pointer Processor to the AIS-P condition." (Id. Ex. 3, at 4; id. Ex. 4, at 4.) Put simply, Dr. Prucnal concludes that "the detection of the lack of integrity of the high-level signal starts a chain reaction which results in error signals being inserted into designated substrate communications, 'following demultiplexing. . .'" (Id.) Dr. Prucnal further opines, with citation to Cisco documents (e.g., BTC192 Specification) and Dr. Grover's expert [*24] report, that "[t]he separate operations of the pointer processors [in Cisco's and Lucent's accused products] show that the STS-N signal is demultiplexed into its STS-1s to detect the AIS-P condition." (Id.) Dr. Prucnal also notes that, although Dr. Grover disagrees with his position, Dr. Grover "acknowledges that the pointer processor operates on 'each' STS-1." (Id.) Finally, Dr. Prucnal concludes that Dr. Grover has added requirements to the "demultiplexing," such as "restoring," "complete demultiplexing," and channels that are "looped through," which do not appear in the court's claim construction. (Id.)

Dr. Grover, on the other hand, states that there is "no support for Dr. Prucnal's assertion that an all ones high-level STS-N signal is 'demultiplexed' by the Pointer

Processor on the BTC ASIC," based on his understanding of the accused products. (D.I. 256 Ex. 3 P 69.) Contrary to Dr. Prucnal, Dr. Grover, with citation to the same Cisco documents (and same portions of the documents) as Dr. Prucnal, opines that the Pointer Processor does not demultiplex high-level signals but, rather, "merely transfers each STS-1 frame from the external or line clock domain to the [*25] internal or cross connect clock domain using a FIFO RAM buffer." (Id.) Dr. Grover further disputes Dr. Prucnal's assertion that the Pointer Processor "insert[s] all one error signals (called 'AIS-P') in the H1, H2 bytes of the individual STS-1 channels,' in response to a defective high-level signal." (Id. P 71-72.)

The court finds that the preceding examples demonstrate that the parties' experts disagree as to whether the Pointer Processor of the defendants' accused products performs the demultiplexing and insertion of error signals required by the asserted claims. Moreover, Dr. Prucnal and Dr. Grover rely on the same supporting documents and deposition testimony in reaching exact opposite conclusions with respect to the accused products. These are not minor disagreements, but critical factual issues that must be resolved in order to reach a finding with respect to infringement of the '763 patent. In order to resolve these disputed issues, the factfinder will need to make credibility determinations and weigh the evidence relied on by the competing experts. Keeping in mind the standard for summary judgment, as well as the fact that the court is not to resolve facts [*26] or weigh evidence at the summary judgment stage of the litigation, the court concludes that genuine issues of material fact remain with respect to whether the defendants' accused products infringe the asserted claims of the '763 patent. As such, the court will deny the defendants' request for summary judgment on this issue.

B. Anticipation

A patent is not valid if the associated invention was "described in a printed publication . . . more than one year prior to the date of the application for patent." 35 U.S.C. § 102(b). "Anticipation is a question of fact." *Scripps Clinic & Research Found. v. Genentech, Inc.* 927 F.2d 1565, 1576 (Fed. Cir. 1991). A claim is anticipated when each and every claim element . . . [is] shown, either expressly or inherently, in a single prior art reference. *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997). To invalidate a patent, the reference also must enable someone skilled in the art to make the claimed invention.

PPG Indus. v. Guardian Indus. Corp., 75 F.3d 1558, 1566 (Fed. Cir. 1996). Assertions of invalidity based only on prior art references before the patent [*27] examiner during prosecution carry an added burden because the examiner, who is presumed to have properly done his job, specifically reviewed the reference. *Am. Hoist & Derrick Co. v. Sowa & Sons*, 725 F.2d 1350, 1359 (Fed. Cir. 1984), *cert denied*, 469 U.S. 821, 105 S. Ct. 95, 83 L. Ed. 2d 41 (1984).

Telcordia contends that it is entitled to summary judgment that the asserted claims of the '306 patent are not anticipated by any of the references discussed in the expert reports submitted by the defendants' expert witness, Anthony Acampora, Ph.D. ("Dr. Acampora"). Specifically, Telcordia contends that the following submissions do not anticipate the '306 patent: (1) R. Boehm, Y.C. Ching, and S. Say, *Rates and Formats for Fiber Optics Interfaces*, T1.X1.4/86-020 (February 14, 1986) (the "Boehm-Ching-Say article"); (2) J.O. Limb and C. Flores, *Description of FasNet -- A Unidirectional Local-Area Communications Network*, The Bell Systems Technical Journal, Vol. 61, No. 7 (September 1982) ("FasNet"); and (3) Z.L. Budrikis and A.N. Netravali, *A Packet/Circuit Switch*, AT&T Bell Laboratories Technical Journal, Vol. 63, No. 8 (October 1984) ("Budrikis"). Additionally, Telcordia contends [*28] that Dr. Acampora acknowledged in his reply expert report that all of the references, except the Boehm-Ching-Say article, FasNet, and Budrikis, lack certain elements of the asserted claims when applying the court's claim construction. The court will address each of these references and arguments in turn.

1. The Boehm-Ching-Say Article

Telcordia first contends that the Boehm-Ching-Say article does not anticipate any of the asserted claims of the '306 patent. Telcordia states that Dr. Acampora goes outside the Boehm-Ching-Say article and relies on the teachings of another reference, M. Beckner and S. Minzer, *A Tutorial on Asynchronous Time Division Multiplexing: A Packet Mode Access Capability in Broadband Interfaces to ISDNs*, Bell Communications Research, T1.D1.185-149 (November 1985) (the "Beckner-Minzer tutorial"), in order to opine that the Boehm-Ching-Say article anticipates the '306 patent. According to Telcordia, Dr. Acampora's anticipation defense must fail because it is improper to combine separate references to build the claimed invention.

In response, the defendants argue that a person of ordinary skill in the art would understand that the Boehm-Ching-Say article [*29] incorporates by reference the packet-mode techniques described in the Beckner-Minzer tutorial, thus rendering it anticipatory. In other words, the defendants concede that the Boehm-Ching-Say article standing alone does not anticipate the claims of the '306 patent. However, the defendants assert that the Boehm-Ching-Say article anticipates the claims of the '306 patent because it incorporates by reference the Beckner-Minzer tutorial on Asynchronous Time Division Multiplexing ("ATDM"), which teaches several limitations of the '306 patent. As a result, in order to reach the anticipation issue, the court must first determine whether the Boehm-Ching-Say article incorporates by reference the Beckner-Minzer tutorial.

As previously mentioned, invalidity by anticipation "requires that the four corners of a single, prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation." *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000) (citing cases). "Material not explicitly contained in the single, prior [*30] art document may still be considered for purposes of anticipation if that material is incorporated by reference into the document." *Id.* (citing *Ultradent Prods., Inc. v. Life-Like Cosmetics, Inc.*, 127 F.3d 1065, 1069 (Fed. Cir. 1997)). "Incorporation by reference provides a method for integrating material from various documents into a host document -- a patent or printed publication in an anticipation determination -- by citing such material in a manner that makes clear that the material is effectively part of the host document as if it were explicitly contained therein." *Advanced Display*, 212 F.3d at 1282 (citing *General Elec. Co. v. Brenner*, 132 U.S. App. D.C. 323, 407 F.2d 1258, 1261-62 (D.C. Cir. 1968); *In re Lund*, 376 F.2d 982, 989, 54 C.C.P.A. 1361 (CCPA 1967)). "[A] mere reference to another application, or patent, or publication is not an incorporation of anything therein. . . ." *In re Seversky*, 474 F.2d 671, 674 (CCPA 1973). Therefore, in order to incorporate material by reference, a host document must (1) "identify with detailed particularity what specific material it incorporates," i.e. the subject matter to be incorporated, [*31] and (2) "clearly indicate where that material is found in the various documents." *Advanced Display*, 212

F.3d at 1282 (citing cases). Whether and to what extent material has been incorporated by reference into a host document is a question of law. *Id.* at 1283.

Turning to the present case, the defendants argue that the '306 patent is anticipated by the Boehm-Ching-Say article and the material incorporated therein from the Beckner-Minzer tutorial. Telcordia disagrees and contends that the Boehm-Ching-Say article merely mentions the Beckner-Minzer tutorial, and that citation is not enough to incorporate the tutorial by reference.

The Boehm-Ching-Say article contains the following statement regarding the Beckner-Minzer tutorial:

For broadband services previous contributions have indicated that packet-mode techniques are a way to achieve flexibility at rates lower than the broadband channel rate (T1D1.1/85-113, T1D1.1/85-149). The modular approach described here is necessary to construct channels at rates higher than the STS-1 rate for basic transport of broadband services and to facilitate the introduction of other undefined services.

(D. [*32] I. 261 Ex. K, at 4.) The T1D1.1/85-149 cited in the parenthetical is the only reference to the Beckner-Minzer tutorial. Based on the citation, the defendants argue that the Boehm-Ching-Say article's reference to T1D1.1/85/149 identifies the ATDM tutorial as the specific document from which the article incorporates information. The defendants further argue that the article's use of the phrase "packet-mode techniques are a way to achieve flexibility at rates lower than broadband channel rate," provides a detailed identification of the subject matter disclosed in the ATDM tutorial that is incorporated into the article, namely, the tutorial's description of ATDM, a packet access capability for broadband interfaces to ISDNs. The court is not persuaded by the defendants' arguments, and finds that the Beckner-Minzer tutorial is mentioned in the Boehm-Ching-Say article to let one of ordinary skill in the art know what Bell Communications had done in the past, i.e. used "packet-mode techniques . . . to achieve flexibility at rates lower than the broadband channel rate." (*Id.*) The Boehm-Ching-Say article then distinguishes the packet-mode techniques of previous contributions, including the Beckner-Minzer [*33]

tutorial, from the approach followed by the article's authors, or the "modular approach," which "is necessary to construct channels at rates higher than the STS-1 rate for basic transport of broadband services. . . ." (*Id.*) Thus, the court agrees with Telcordia's position that the Boehm-Ching-Say article's citation to the Beckner-Minzer tutorial is analogous to the situation where a patent application identifies prior art and then distinguishes that prior art from the invention claimed in the application.

Further, the court finds that the cases cited by the defendants in support of their proposition that "courts have found incorporation by reference when the host document provided a technical description of the subject matter to be incorporated rather than a page or column citation" are easily distinguishable, because the defendants disregard the level of detail that accompanied those successful efforts to incorporate material by reference. In *Southern Clay Prods., Inc. v. United Catalysts, Inc.*, 43 Fed. Appx. 379 (Fed. Cir. 2002) (non-precedential), the defendant argued that a prior art patent incorporated another patent by reference and, as a result, the first patent [*34] expressly disclosed each limitation of the asserted claims of the patent-in-suit. *Id.* at 384. The first patent stated the following:

Exemplary of commonly employed physical or comminuting techniques for breaking the bonds between the colloidal particles in a clay particle aggregate are those techniques disclosed in *United States Patent Nos. Re. 25,965*; 3,253,791; 3,307,790; and 3,348,778 [the referenced patent]. Generally speaking, the techniques disclosed in these patents effect some type of grinding or comminuting either by shear or abrasion so as to break the bonds in the clay aggregate particle and thus form several colloidal particles therefrom.

Id. at 384 (citing the patent-in-suit). The plaintiff argued that the first patent merely cited to the second patent and did not clearly identify which material from the second patent was meant to be incorporated. *Id.* The court disagreed, finding that the first patent specifically identified the relevant material from the second patent with the proper level of detail and was thus incorporated by reference. *Id.* ("The language in [the first patent]

clearly states that it is citing [*35] [the second patent] for its bond-breaking methods.") The level of detail included in the Boehm-Ching-Say article's citation to the Beckner-Minzer tutorial in the present case, i.e. a mere reference standing alone, stands in stark contrast to the language of incorporation employed in *Southern Clay*. Accordingly, *Southern Clay* is distinguishable.

Similarly, in *In re Voss*, 557 F.2d 812 (CCPA 1977), the court determined that a patentee had properly incorporated another patent by reference. There, the patent stated:

A glass-ceramic material is originally formed as a glass which is then phase separated, by a controlled uniform devitrification throughout, to develop a fine crystalline structure within a glassy matrix, the material thus produced having physical properties materially different from the parent glass and more nearly characteristic of a conventional crystalline ceramic material. Reference is made to *United States Patent No. 2,920,972*, granted to S.D. Stookey, for a general discussion of glass-ceramic material and their production.

Id. at 815-16. In holding that the patentee identified in detail the relevant material to [*36] be incorporated, the court found that the glass-ceramic materials referenced in the patent were merely starting materials for the patentee's strengthening process, which was the invention of the patent. *Id.* at 817. Thus, the court reasoned that, rather than include in his application a detailed discussion of how to prepare such known starting materials, the patentee, for economy, referred the skilled artisan to the patent granted to S.D. Stookey. *Id.* The court then held that "[i]t is clear that [the patentee] intended the 'discussion of glass-ceramic materials and their production' in Stookey '971 to become part of his parent application." *Id.* The Boehm-Ching-Say article in the present case does not contain the level of detail found in the patent application in *Voss*. Nor does it make clear that its discussion of the Beckner-Minzer tutorial is part of the article and, therefore, incorporated by reference. As such, *Voss* is distinguishable from the present case.

Finally, the defendants rely on *In re Hughes*, 550 F.2d 1273 (C.C.P.A. 1977) for support. Their reliance on

Hughes, however, is misplaced because, as in *Southern Clay* [*37] and *Voss*, the patentee in *Hughes* included a detailed description of the subject matter to be incorporated into the host document. In *Hughes*, the patentee included the following language in the specification of the application:

Copending application Ser. No. 131,108, filed Aug. 14, 1961 by Jack Hurst and Harry D. Anspen describes the preparation of aqueous dispersions of water-insoluble, self-emulsifiable ethylene polymers containing pendent carboxylate salt groups which can be suitably employed in the process of this invention. As described therein, water-insoluble, but self-emulsifiable ethylene polymers containing pendent carboxylate salt groups are prepared by the hydrolysis in an aqueous medium of the acrylate groups of a thermoplastic ethylene-alkyl acrylate inter-polymer employing elevated temperatures, a metallic base, and, optionally, a nitrogenous base to produce a stable aqueous dispersion of the ethylene polymer. Reference is made to application Ser. No. 131,108 for complete descriptions of methods of preparing aqueous polymeric dispersions applicable in the hereinafter described invention.

550 F.2d at 1274-74. The court found that [*38] the application incorporated by reference application Ser. No. 131,108, because it made "one document [application Ser. No. 131,108] become a part of another document [the patent application] by referring to the former in the latter in such a manner that it is apparent that the cited document is part of the referencing document as if it were fully set out therein." *Id.* at 1276. Here, as previously discussed, the Boehm-Ching-Say article does not include the specific subject matter of the Beckner-Minzer tutorial that is to be incorporated. Therefore, as with the other cases cited by the defendants, *Hughes* is distinguishable. Having determined that the Beckner-Minzer tutorial is not incorporated by reference into the Boehm-Ching-Say article, Telcordia is entitled to summary judgment that the Boehm-Ching-Say reference does not anticipate the asserted claims of the '306 patent.

2. The FasNet and Budrikis References

Telcordia also contends that it is entitled to summary judgment that the FasNet and Budrikis references do not anticipate the asserted claims of the '306 patent, because they fail to describe all the elements of the asserted claims. FasNet is "an [*39] implicit token-passing, local-area network aimed at supporting high data rates and carrying a wide mix of traffic (data, voice, video, and facsimile)." (D.I. 261 Ex. E, at 1413.) The basic link in FasNet consists of two lines, which pass all stations, or sources, carrying traffic in opposite directions. (*Id.* at 1416.) The data link layer of the system is divided into two sublayers -- the logical link control (which was not an issue of concern for the authors) and the media access control, which "determines when and how to send information via the physical medium." (*Id.* at 1418.) In discussing the frame structure, FasNet notes that "[t]he media access control sublayer appends (i) the frame check sequence computed on the previous fields for error detection and (ii) the access control ("AC") field which determines how and when each station may access the physical medium." (*Id.*) The authors explain that the main objective in the design of the AC field is "to control access among all active stations in an efficient, reliable, and fair manner." (*Id.*) The authors describe the basic access control for FasNet:

The head station, S1, initiates a cycle on line A. After a cycle has been [*40] initiated, each active station on the line with packets destined in the right direction is allowed to access the line for one slot [or duration of a particular frame]. To do this, each station monitors the line. When it senses the line idle, it seizes the line for one slot. It has to wait for a new cycle to be initiated before it attempts to access the line again. . . . If a station has priority, it is given permission to access the line for an integral number of slots. In this manner, the active stations can access the line for a specified duration in the order in which they are physically located on the line.

(*Id.* at 1418-19.) In concluding, the authors include a summary of the access protocol as follows:

Upon reading a start-of-cycle, a station may transmit a prespecified number of packets in the first available empty slots. When all stations have transmitted their

packets, a signal is sent on the return line to inform the head station to start a new cycle. The efficiency of FasNet increases as the length of a start cycle increases; cycle length depends upon the length of a packet, the number of active stations, and the number of packets, pmax, that each station [*41] is permitted to send in a cycle. By adaptively changing pmax, efficiency can be maintained at a high level even for a small number of active stations.

(Id. at 1538-39.)

Budrikis, which discloses a system similar to FasNet, proposes "a switch, suitable for an integrated local communications network, that will support packet switching and circuit switching, with a wide range of bit rates." (D.I. 261 Ex. F, at 1499.) The key components of the system are a pair of Serial Memories ("SM"), a Central Controller ("CC"), and Accessing Units ("AU"). (Id. at 1500.) Data communication in the system, i.e. forward channel and reverse channel dispatch, is described by the authors as follows:

When idle, the dispatcher is normally in the "Go" state and monitors the sending buffer (for the forward channel), checking whether it contains a packet for transmission. If it does, it reads the BUSY [i.e. a single bit to indicate slot occupancy] field of the next block on the forward channel and at the same time writes a "ONE" in that field so as to seize the slot, should it be available. If it is not, i.e. BUSY was already "ONE," then it will write a "ONE" in the next RQST [i.e. a single [*42] bit, common channel used for slot pleading or priority] field on the reverse channel and wait for the next BUSY field on the forward channel. It will repeat reading and writing of BUSY on the forward channel and sending RQSTs on the reverse channel until a "ZERO" BUSY occurs. It will then write in the related SNDR [i.e. address or password of the AU sending packet], RCVR [i.e. address or password of AU intended to receive the packet], and DATA [i.e. data

field], so dispatching a packet.

Having sent a packet, the dispatcher moves to the "One packet sent" state. If the sending buffer has at that moment one or more further packets for dispatch, then the dispatcher will behave exactly as in the "Go" state and send off the next packet, thereby moving to the "Two packets sent" state. But if there is no packet in the sending buffer on entry to the "One packet sent" state, then the dispatcher will proceed to the "Halt" state. It will remain there until the next "ZERO" is written in the RQST fields on the reverse channel, whereupon it will revert to the "Go" state.

(Id. at 1508-09.) The above-quoted excerpt explains data communication in the "One packet sent" state. With respect [*43] to the "Two packets sent" state, the authors explain that "[s]imilar conditions apply . . . until the dispatcher has sent in a contiguous sequence M packets and entered the 'M packets sent' state." (Id. at 1509.) Once entering the "M packets sent" state, the dispatcher must proceed unconditionally to "Halt." (Id.) The authors describe M as "a parameter that may vary with AU," noting that it "represents priority standing: The larger its value, the less sensitive the AU is to pleadings for slots by other AUs that are downstream from it." (Id. at 1510.)

With respect to FasNet and Budrikis (which is similar in many ways to FasNet), Telcordia argues that neither allow a particular source to fill any available slot with information that is ready to transmit. Put differently, Telcordia argues that the systems require a source with waiting information to let empty slots pass by, regardless of the priority of the waiting information. Consequently, Telcordia argues that FasNet and Budrikis do not satisfy the requirements of claims 1 and 3 that data "from any of said sources is written to any available empty payload field of any of said frames," or the requirement in claim 4 for an inserting [*44] means for inserting packets "into any empty payload field of any of said frames available to said inserting means." (D.I. 261, at 21.) In summary, Telcordia's position with respect to FasNet and Budrikis is the following: (1) FasNet and Budrikis predetermine the number of slots each station will be permitted to use in a given cycle; (2) the number of slots can be more than one, or some stations can be assigned more slots than others; and (3) a station having a predetermined number

of permitted slots must stop accessing the line when it reaches that limit, regardless of how much information that station is trying to transmit, and must thereafter allow some other station to access the line even if the information the first station is attempting to transmit would be of a higher priority. (D.I. 284, at 5.) Thus, Telcordia contends that there is no factual dispute about the teaching of FasNet and Budrikis that would preclude a grant of summary judgment in its favor.

The defendants oppose Telcordia's motion and argue that disputed issues of fact exist as to whether the priority scheme disclosed in FasNet and Budrikis meet the court's priority scheme requirement. Specifically, the defendants [*45] argue that the following critical factual issues are disputed by the parties' experts: (1) whether FasNet and Budrikis necessarily limit each source to the transmission of one packet per cycle, even if that source has other packets to send; and (2) whether FasNet and Budrikis place a specified limit on the number of packets each station can transmit, and whether any such limit would satisfy the disputed claim requirement. (D.I. 270, at 2.) According to the defendants and Dr. Acampora, FasNet and Budrikis disclose a priority scheme, whereby the priority standing of each station (i.e. source) can vary from time to time. (Id. at 8.) Thus, the systems never allow lower-priority stations to transmit packets when higher-priority stations have packets to transmit. (Id.) The defendants further argue that, as a result of the shifting priority scheme, FasNet and Budrikis disclose "an empty payload field that can be filled with a data packet from the source, among the plurality of sources, of the highest priority with a data packet ready to transmit," as required by claims 1, 3, and 4. (Id.) In other words, FasNet and Budrikis describe an embodiment in which an empty payload field is filled with [*46] a data packet from the source, among the plurality of sources, of the highest priority with a data packet ready to transmit, which is exactly what is required by the court's claim construction.

After having considered the parties' submissions on the issue, as well as the expert reports of Dr. Acampora and Dr. Prucnal, the court concludes that summary judgment in Telcordia's favor is inappropriate with respect to FasNet and Budrikis. Keeping in mind the fact that the court is not permitted to weigh evidence during the summary judgment process, it cannot conclude at this time that there are no disputed issues of material fact with respect to the disclosure in FasNet and Budrikis, because Drs. Acampora and Prucnal provide positions and

analysis that are diametrical opposites. For example, Dr. Prucnal opines that FasNet and Budrikis cannot place data into any available empty payload field, because sources can access empty frames in the systems only in accordance with a "fairness" protocol, which permits packets from lower priority sources to fill empty payload fields before packets from higher priority sources. (D.I. 261 Ex. C, at 6.) Conversely, Dr. Acampora opines that [*47] the priority scheme described in FasNet is "substantially similar" to that disclosed in the '306 patent: "If a station has priority, it is given access to the line for an integral number of slots. In this manner, the active stations can access the line for a specified duration in the order in which they are physically located on the line." (D.I. 261 Ex. B, at 15.) Dr. Acampora further opines that the placement of stations on the bus "allows for the transmission of data from the source with the highest priority." (Id. at 16.) Dr. Acampora expresses the same opinions with respect to Budrikis, noting that the scheme in Budrikis, like FasNet "uses a cycle process, and [it is] the cycle process itself that ensures that, as a function of time, only the station of highest priority at that time can access the frame, consistent with the court's claim construction." (D.I. 261 Ex. D, at 6.) In other words, Dr. Acampora opines that both FasNet and Budrikis disclose a priority scheme, and that the priority of different stations (e.g. sources) "will shift to allow for transmission from different sources based on both their location on the bus and the particular cycle. [*48] " (Id. at 5.)

The court has examined FasNet and Budrikis, and finds that these references appear to disclose some type of priority scheme. (See D.I. 261 Ex. E, at 1418 ("If a station has priority, it is given permission to access the line for an integral number of slots. In this manner, the active stations can access the line for a specified duration in the order in which they are physically located on the line."); D.I. 261 Ex. F, at 1510 (describing M as "a parameter that may vary with AU [Access Unit]," and noting that it "represents priority standing: The larger its value, the less sensitive the AU is to pleadings for slots by other AUs that are downstream from it.)) Whether the priority scheme in FasNet and Budrikis is consistent with the court's claim construction is an issue of fact that is vigorously disputed by the parties and their experts. Given the foregoing, the court concludes that the defendants have raised a genuine issue of material fact with respect to whether the priority schemes disclosed in FasNet and Budrikis are consistent with the court's claim construction. Accordingly, summary judgment that the

'306 patent is not invalid as anticipated by FasNet and Budrikis [*49] is inappropriate, and the court will deny Telcordia's motion.

C. Enablement

Telcordia has moved for summary judgment that the '306 patent is not invalid for lack of enablement. The defendants' answering brief in opposition to Telcordia's motion states, "[u]nder the court's claim construction, the [d]efendants do not contest enablement of the asserted claims of the '306 patent." The defendants, therefore, concede that there are no genuine issues of material fact that would permit a reasonable jury to find that the asserted claims of the '306 patent are not enabled. Accordingly, the court will grant Telcordia's summary judgment motion on the issue of enablement. n8

n8 In making their concession, the defendants "reserve the right to later assert lack of enablement," if the claim construction of the '306 patent should change.

D. Best Mode

The defendants assert that the claims of the '306 patent are invalid for failure to disclose the best mode in the specification. A patent is invalid if [*50] the specification does not describe the "best mode contemplated by the inventor of carrying out his invention." See 35 U.S.C. § 112, P 1. The "purpose of this . . . requirement is to restrain inventors from applying for patents while at the same time concealing from the public preferred embodiments of their inventions which they have in fact conceived." See *In re Gay*, 309 F.2d 769, 772, 50 C.C.P.A. 725, 1962 Dec. Comm'r Pat. 737 (C.C.P.A. 1962). "Compliance with the best mode requirement is a question of fact, and invalidity for failure of compliance requires proof by clear and convincing evidence that the inventor knew of and concealed a better mode of carrying out the invention than was set forth in the specification." *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1578.

Determining whether a patent satisfies the best mode requirement involves a two-part factual analysis. See *Eli Lilly & Co. v. Barr Lab.*, 251 F.3d 955, 963 (Fed. Cir.

2001) (citing cases). First, the court must determine whether, at the time the patent application was filed, the inventor had a best mode of practicing the claimed invention. See *id.* (citing [*51] cases); see also *United States Gypsum Co. v. Nat'l Gypsum Co.*, 74 F.3d 1209, 1212 (Fed. Cir. 1996); *Chemcast Corp. v. Arco Indus. Corp.*, 913 F.2d 923, 927-28 (Fed. Cir. 1990). This inquiry is wholly subjective and focuses on the inventor's state of mind at the time of filing to determine whether he or she must disclose any facts in addition to those sufficient for enablement. See *Eli Lilly*, 251 F.3d at 963; *United States Gypsum*, 74 F.3d at 1212. Second, if the inventor had a best mode of practicing the claimed invention, the court must then determine if the specification adequately discloses what the inventor contemplated as the best mode "so that those having ordinary skill in the art could practice it. See *Eli Lilly*, 251 F.3d at 963; *United States Gypsum*, 74 F.3d at 1212. This inquiry is objective and depends on the scope of the claimed invention and the level of skill in the art. See *Eli Lilly*, 251 F.3d at 963; *United States Gypsum*, 74 F.3d at 1212. Because patents are presumed valid, the defendants must establish a best mode violation by clear and [*52] convincing evidence. See *United States Gypsum*, 74 F.3d at 1212.

The defendants contend that a named inventor of the '306 patent, Dr. Jonathan Chao ("Dr. Chao"), explicitly admitted that he had a best mode of practicing the claimed invention at the time the '306 patent was filed and that his best mode is not disclosed in the '306 patent. According to the defendants, the DTDM system disclosed by the '306 patent allows multiple data sources to transmit data over a common stream that consists of a train of frames, which each receive a single packet. The defendants contend that the filling of frames after it is determined that they are "available" and "empty" is at the heart of each of the asserted '306 patent claims, and the functionality of the DTDM system. The defendants further contend that Dr. Chao's best mode of practicing the claimed invention goes directly to the above-stated requirement. Thus, the defendants argue that, because some frames are not empty and available before they arrive at the framer that inserts the packets, Dr. Chao devised a technique for detecting whether a frame is empty and available "on the fly," or before it reaches the packet insertion [*53] point -- a feature which Dr. Chao referred to a "peek ahead" feature. In addition, the defendants contend that Dr. Chao developed circuitry in which the parallel data is taken out before the

delay unit, and explained that the development of this feature was the primary basis for his inclusion as an inventor on the '306 patent and his best mode for determining whether frames are empty and available on the fly. The defendants use these contentions to support their ultimate conclusion that the '306 patent does not disclose Dr. Chao's best mode circuitry.

Contrary to the defendants, Telcordia argues that there are at least three material factual disputes that preclude entry of summary judgment. First, Telcordia argues that there is a factual dispute as to whether the particular delay unit features on which the defendants focus are even related to the claimed invention, as it has been defined by the court. More particularly, Telcordia states that Dr. Chao testified that the delay unit relied on by the defendants is "optional" and relates to an "alternative" approach. The second factual dispute is whether the inventors actually considered the particular logic circuit features which the [*54] defendants contend are the best mode of practicing the claimed invention. With respect to this alleged factual dispute, Telcordia states that the '306 patent specification makes clear that the best and contemplated implementation of the framer unit was one in which the "framer unit is formed as a single chip." Finally, Telcordia argues that there is a factual dispute as to whether the disclosure of the '306 patent specification is adequate to enable one skilled in the art to practice the best mode for the claimed invention, assuming an implementation with a delay unit together with a parallel data output line to external circuits was in fact contemplated as the preferred mode for carrying out the claimed invention. All of these arguments add up to Telcordia's main conclusion, which is that the supposedly omitted information regarding the placement of the delay unit does not relate to the claimed invention.

After having considered the parties' arguments, as well as Dr. Chao's testimony regarding the invention, the court concludes that material issues of disputed fact remain as to whether the '306 patent discloses the inventors' best mode for carrying out the invention. First, Dr. Chao's [*55] testimony in the *Bell Communications Research Inc. v. Fore Systems, Inc.* (the "*Fore Case*") raises disputed issues of fact as to his contribution to the '306 patent. For example, while the defendants contend that Dr. Chao explained that the development of circuitry in which the parallel data is taken out before the delay unit was the primary basis for his inclusion as an inventor

on the '306 patent, his testimony in the *Fore Case* appears to belie that contention. Indeed, in the *Fore Case* he testified that he designed the architecture for the DTDM multiplexer and contributed the material shown in Figures 4-12 of the patent. (D.I. 272 Ex. B, at 56:21-57:11.) Moreover, Dr. Chao testified in the present case that what the defendants refer to as his "primary contribution" to the '306 patent is merely an optional feature used in certain situations. Indeed, Dr. Chao testified that the two-byte delay "mainly is for adding the packet on the fly," and that he was "not sure in the claim we [the inventors] described this on-the-fly as part of the invention of [the '306 patent]." (D.I. 272 Ex. A, at 306:11-307:10.) Dr. Chao also testified that column 17, line 14 of the '306 patent [*56] disclosed his "more efficient way to do DTDM," because it referred to a multiple byte delay. (Id. at 314:15-315:13.) Further, Dr. Chao stated that the "peek ahead" feature he developed was disclosed in column 17, line 27 of the '306 patent, which he testified discloses pulling out the data bus before the delay. n9 (Id. at 324:16-325:15.) Finally, with respect to the "peek ahead" feature, Dr. Chao testified that it was alternative architecture, that the '306 patent disclosed a traditional architecture to implement the DTDM invention, and that "people could implement the claimed inventions of the '306 patent without his description of how the framer circuit works." (Id. at 344:7-345:17; 349:8-22.) Dr. Chao's testimony demonstrates to the court that disputed issues of material fact exist as to whether the '306 patent discloses the "peek ahead" or "on the fly" feature developed by Dr. Chao, and whether the featured circuitry was part of the claimed invention or merely an alternative. n10 Accordingly, summary judgment is not appropriate, and the court will deny the defendants' motion.

n9 The defendants make much of the fact that Dr. Chao testified that Figure 12 discloses the "opposite" of Dr. Chao's best way to implement the claimed invention, because Dr. Chao testified that Figure 12 was misdrawn. (See D.I. 272 Ex. A, at 330:5-331:20.) However, Dr. Chao testified that even though Figure 12 may be misdrawn, column 17, line 27 of the '306 patent discloses "the purpose for the delay unit." (Id. at 331:19-332:1.) As a result, the alleged misdrawing of Figure 12 is of no moment.

[*57]

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this same date, IT IS HEREBY ORDERED that:

n10 *Compare United States Gypsum Co. v. Nat'l Gypsum Co.*, 74 F.3d 1209, 1212-13 (Fed. Cir. 1996) (affirming the district court's conclusion that the inventor failed to disclose his best mode, where the inventor admitted at multiple depositions and stated in an affidavit that he believed a certain material to be the best material for use in his invention even though it was not disclosed in the invention). In the present case, Dr. Chao's testimony and the other evidence presented is far different from the type of unequivocal testimony and statements of the inventor in *United States Gypsum* that led the Federal Circuit to conclude that the inventor did not disclose his best mode.

1. The defendants' Motion for Summary Judgment of Non- Infringement of the '306 Patent (D.I. 251) is GRANTED.

2. The defendants' Motion for Summary Judgment of Non-Infringement of the '763 Patent (D.I. [*58] 254) is DENIED.

3. The plaintiffs Motion for Partial Summary Judgement that the '306 Patent is not Invalid as Anticipated or for Lack of Enablement (D.I. 258) is GRANTED in part and DENIED in part. The motion is GRANTED with respect to the Boehm-Ching-Say Article and enablement. The motion is DENIED with respect to Fas-Net and Budrikis.

4. The Defendants' Motion for Summary Judgment of Invalidity of the '306 Patent (D.I. 259) is DENIED.

Dated: May 1, 2007

/s/ Gregory M. Sleet

UNITED STATES DISTRICT JUDGE

ORDER

For the reasons stated in the court's Memorandum of

Dated: May 1, 2007

/s/ Gregory M. Sleet

UNITED STATES DISTRICT JUDGE